

**INTEGRATED FREQUENCY SELECTABLE RESONANT
COUPLING NETWORK AND METHOD THEREOF**

ABSTRACT

5 An integrated center frequency selectable resonant coupling network suited
for use in an integrated circuit is disclosed. The network includes an integrated
coupling transformer having a secondary winding for coupling to a load and a
primary winding for coupling to a source; a first integrated capacitive circuit
controllably coupled across one of the primary and secondary windings and when so
10 coupled operable to resonate with the integrated coupling transformer at a frequency
in a first frequency band; and a second integrated capacitive circuit coupled across a
second one of the primary and the secondary windings that is operable to resonate
with the integrated coupling transformer at a frequency in a second frequency band.
The method is in an IC and includes providing and coupling an input signal within
15 alternatively a first frequency band and a second frequency band to a primary
winding of an integrated coupling transformer; controlling an integrated switched
capacitor network, coupled to the transformer, to provide a coupling network that is
alternatively and respectively resonant at a first and second frequency within the first
and second frequency band thus selectively providing an output signal at a secondary
20 winding of the transformer; and down converting the output signal.